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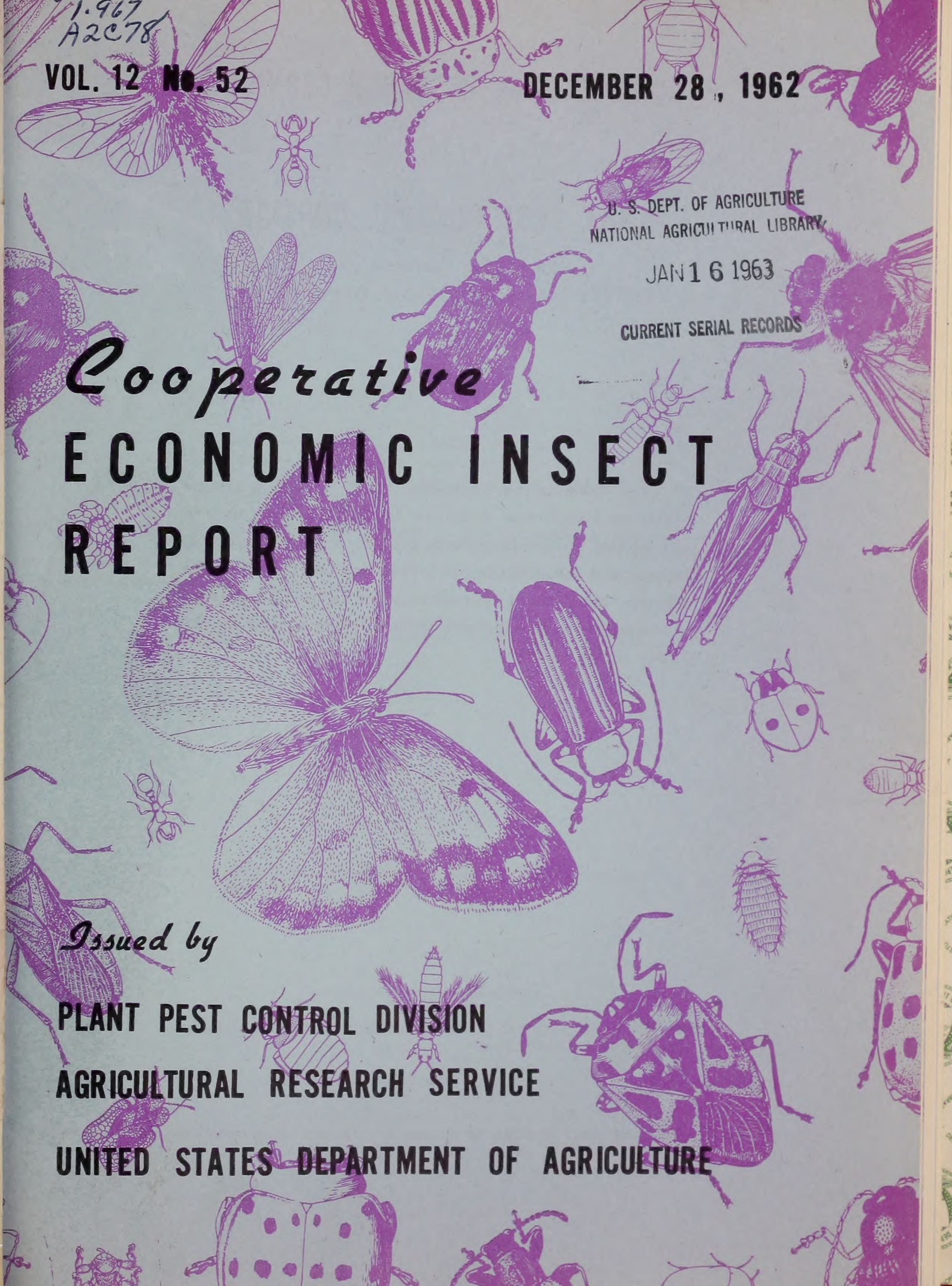

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
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Volume 12 December 28, 1962 Number 52

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Annual survey in Illinois shows CHINCH BUG populations increased remarkably from 1961 to 1962, with practically entire Eastern and Central Districts plus Will, Grundy, Edgar, Douglas, Christian, Sangamon, Hancock, Clinton and Washington Counties showing potential threat in 1963. Average number of chinch bugs per square foot in 35 comparable counties was 555 in 1962, compared with 142 in 1961. GREENBUG counts as high as 200 per linear foot in field of wheat north of Clovis, New Mexico. (p. 1277).

SMALLER EUROPEAN ELM BARK BEETLE adults heavy in bark of Chinese elm in Walnut Creek, California; control good in treated areas. (p. 1277). GREEN PEACH APHID caused moderate to heavy damage to numerous greenhouse plants in central and southeastern Ohio. (p. 1278).

RICE WEEVIL adults very heavy in flour mill in Hocking County, Ohio. Several hundred pounds of wheat screenings removed from 8,000 bushels of infested whole wheat. (p. 1279).

CORRECTIONS

See page 1279.

SPECIAL REPORTS

Insects Not Known to Occur in the United States (Black-veined white butterfly, Aporia crataegi Linnaeus). (pp. 1280-1282).

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Reports in this issue are for week ending December 21, unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 24

The week's weather began mild, but took on a more winter-like appearance as it progressed. A precipitation pattern, moving from east to west, began the period in the Southwest and West Coast States with mostly light amounts. As the developing system responsible for this precipitation moved eastward, pulling moist, gulf air northward to collide with an arctic air mass, rain, snow, sleet and freezing rain were recorded from Texas to Canada and later over much of the eastern half of the country.

Wyoming had its 14th consecutive week of near or above-normal temperature averages, and below-normal averages were restricted to small areas of Florida, Texas and California, and east of a line from Michigan to South Carolina. Unseasonable warmth early in the period was enough to offset the numerous below-zero minima later in the week in the north central region, where averages ranged to 10° above normal. However, temperatures were lowest in New England where two stations cooled to -19° for the coldest readings of this winter season there.

Nearly all areas of the Nation received measurable precipitation. However, little or none fell over most of the Florida Peninsula. Northern California received heavy precipitation, with totals over one inch. Southern areas of that State had rainfall, but amounts were mostly light. Much of the northern and central Rockies received moderate totals, with snowfall ranging to 8 inches in the mountains of Colorado; Montana received a general snowfall on the weekend.

Snowfall amounts ranged up to 3 inches over the northern Great Plains, and 2 to 4 inches in northeastern Kansas, from the passing storm system. Texas received mostly light rain until the 23d when amounts of one to 2 inches fell in southern and eastern areas.

From the Mississippi Valley eastward, precipitation was general and was recorded almost daily in the Great Lakes area. It was mostly snow north of the line from northeast Kansas to southeast Virginia. Heaviest snowfalls were in the central areas of the Appalachians and Atlantic coast. By the evening of the 21st, over 12 inches had fallen in Pendleton County, West Virginia,and Charlottesville, Virginia, measured above 10 inches, then changed to freezing rain. North of the Mason-Dixon line, amounts were mostly in the 2 to 8-inch range. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Samples for annual survey were collected November 19 through December 7 and processed November 26 through December 12 by cooperating Federal and State agencies. Due to the very low 1961 populations, 20 outlying counties that have not had economic infestations during past 5 years were eliminated from the 1962 survey. A total of 38 counties was surveyed during 1962; of these, 35 were surveyed during 1961. Populations increased remarkably from 1961 to 1962, with practically the entire Eastern and Central Districts plus Will, Grundy, Edgar, Douglas, Christian, Sangamon, Hancock, Clinton and Washington Counties showing a potential threat in 1963. Based on county averages, 6 counties rated light, 3 moderate, 6 severe and one very severe in 1962, compared with 2 light, one moderate, one severe and none very severe in 1961. The average number of chinch bugs per square foot in the 35 counties was 555 in 1962, compared with 142 in 1961. (Ill. Ins. Rpt.).

GREENBUG (Toxoptera graminum) - NEW MEXICO - Unusually heavy infestation found in winter wheatfield north of Clovis, Curry County; counts ran as high as 200 per linear foot. Numbers in other areas remain about same as before. (N. M. Coop. Rpt.).

ENGLISH GRAIN APHID (Macrosiphum granarium) - OKLAHOMA - Light, but common in most small grain fields checked in Noble, Kay, Grant and Garfield Counties; ranged 5-25 per linear foot. Generally more common than during same period last year. (Kunz, Owens).

GREEN JUNE BEETLE (Cotinis nitida) - NORTH CAROLINA - Larvae, probably this species, caused considerable damage to 15-acre pasture of coastal Bermuda grass in Duplin County; up to 23 grubs found in one shovelful of soil. (Fedoranko, Dec. 7).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Counts of 50-75 per linear foot noted in Ceres area, Noble County. Lower numbers (10-25 per linear foot) noted in other fields of Noble and Kay Counties. (Kunz).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Moderate to heavy (75-175 per square foot) noted in established overwintering and young stands of alfalfa in northeastern Noble and southeastern Kay Counties. Small numbers of alates present. Lower counts (fewer than 15 per square foot) present in other parts of Noble, Kay, Payne and Alfalfa Counties. (Kunz, Owens).

PEA APHID (Macrosiphum pisi) - OKLAHOMA - Light to moderate (5-75 per square foot) on overwintering alfalfa in Kay and Noble Counties. Counts of 10 per square foot noted in Alfalfa County. Winged forms present in areas of heaviest populations. (Kunz, Owens).

CUTWORMS - ARIZONA - Unspecified species causing concern on alfalfa in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Adults heavy in bark of Chinese elm in Walnut Creek, Contra Costa County; control good in treated areas. (Cal. Coop. Rpt.).

PAINTED LADY (Vanessa cardui) - CALIFORNIA - Larvae heavy on wild malva in Vista area, San Diego County. May be pest of crops again this year if mild weather continues throughout winter. (Cal. Coop. Rpt.).

A JUNIPER MOTH (Periploca nigra) - CALIFORNIA - Larvae heavy in twigs of juniper nursery stock in San Diego, San Diego County; presently in larval and pupal stages. (Cal. Coop. Rpt.).

GREENHOUSE LEAF TIER (Udea rubigalis) - OHIO - Damaged chrysanthemum plants at greenhouse in Logan, Hocking County. Many partially eaten leaves tied together with webs and filled with pellets. Adult noted near injury. Controls effective in halting heavy damage. (Lyon).

GREEN PEACH APHID (Myzus persicae) - OHIO - Caused moderate to heavy damage on numerous greenhouse plants in central and southeastern areas. Many unsaleable plants noted in Columbus, Franklin County. Nymphs and adults heavy on terminal growth and sepals of flowers; honeydew on lower leaves provided media for abundant sooty mold. (Lyon).

Coccids in California - Aspidiotus perniciosus and Parlatoria camelliae heavy on pyracantha plants in Walnut Creek, Contra Costa County. Adults of Pinnaspis strachani heavy on Chamaedorea sp. in a tree service property in San Fernando, Los Angeles County; latter species subject to eradication treatment in State. (Cal. Coop. Rpt.).

EUONYMUS SCALE (Unaspis euonymi) - OHIO - Several euonymus trees cut and burned in effort to control heavy populations in nursery in Columbus, Franklin County. (Lyon).

CITRUS MEALYBUG (Pseudococcus citri) - OHIO - Eggs and adults on many greenhouse and house plants throughout southeastern area. Masses of 300-350 eggs on gardenia plants at greenhouse in Logan, Hocking County. (Blair, Lyon).

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - OHIO - Light on potted lantana plants in greenhouse in Logan, Hocking County; heavy 3 weeks earlier. (Lyon).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OHIO - Damage light to moderate on chrysanthemums at greenhouse in Jackson County. Population greatly reduced due to control program. (Lyon).

INSECTS AFFECTING MAN AND ANIMALS

HOG LOUSE (Haematopinus suis) - OHIO - Heavy concentration of eggs on 300-pound breeding boar in Morrow County; 10-15 eggs per square inch of skin area directly behind ears. No adults observed; treatment applied 2 days earlier. (Lyon).

SHEED KED (Melophagus ovinus) - OHIO - Adults light to moderate on 80-95 pound lambs at farm in Morrow County; no dip treatment given to flock in several years. (Lyon).

HOUSEHOLD AND STRUCTURAL INSECTS

ALMOND MOTH (Ephestia cautella) - CALIFORNIA - Larvae heavy and crawling over walls of home in Richmond, Contra Costa County. Situation noticeable in several locations over State this season. Usually source of infestation is not associated with pest, as latter leaves host in search of place to pupate. Appearance causes concern to householders. Sack of almonds or other host material usually stored and forgotten. (Cal. Coop. Rpt.).

A MOTH FLY (Phlebotomous sp.) - TEXAS - Caused mild annoyance to residents in Titus County. (Neal).

OLD-HOUSE BORER (Hylotrupes bajulus) - MARYLAND - Larvae infested subflooring of home at Reisterstown, Baltimore County. (U. Md., Ent. Dept.).

STORED-PRODUCT INSECTS

RICE WEEVIL (*Sitophilus oryzae*) - OHIO - Adults very heavy at flour mill in Hocking County. Several hundred pounds of wheat screenings removed from 8,000 bushels of infested whole wheat. Seventy degree temperature recorded in infested wheat bin in spite of zero temperature outside of mill. (Blair, Lyon).

CADELLE (*Tenebroides mauritanicus*) - OHIO - Several inactive adults noted in flour mill in Hocking County; adults and larvae heavy during summer months. Pest not completely eradicated in spite of elaborate control programs during past years. (Lyon).

MISCELLANEOUS INSECTS

CITRUS WHITEFLY (*Dialeurodes citri*) - CALIFORNIA - Infestation in Sacramento, Sacramento County, now approaches 175 city blocks. Delimiting survey continues. Now appears that infestation centers in Oak Park District of Sacramento, with infestations fanning out to northern area of city; no infestations found in nurseries. (Cal. Coop. Rpt.).

AN EPHYDRID FLY (*Mosillus tibialis*) - NORTH CAROLINA - Adults breeding in large numbers in sewage sludge at Winston-Salem, Forsyth County, during mid-August. Numerous enough to bother homeowners in vicinity. Det. by W. W. Wirth. (Wright).

BROWN DOG TICK (*Rhipicephalus sanguineus*) - NORTH CAROLINA - Collected in home in Wake County. (Bruce, Dec. 14).

CORRECTIONS

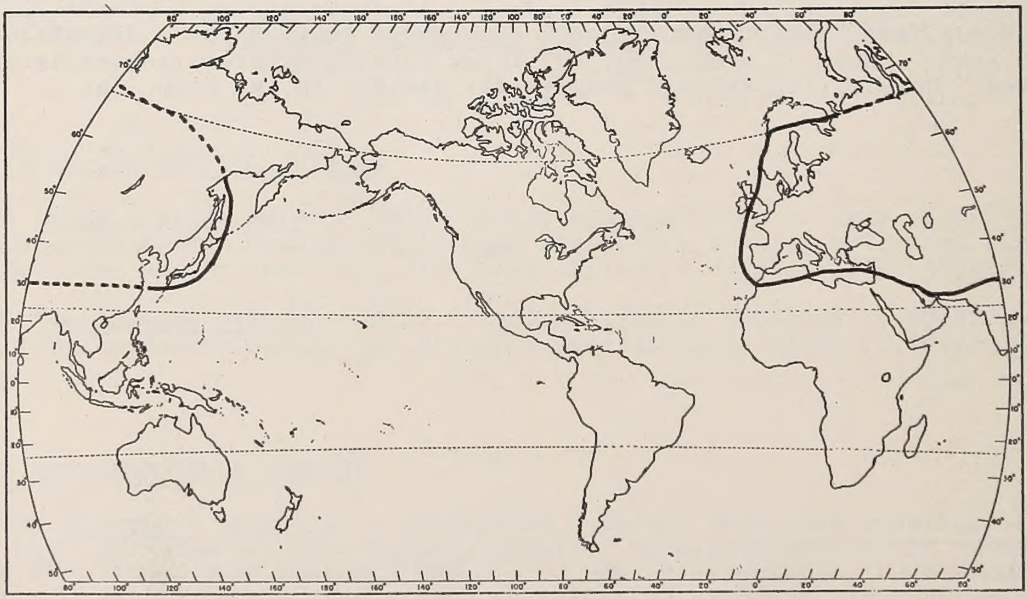
CEIR 12(40):1075 - SPRUCE BUDWORM (*Choristoneura fumiferana*) - NEW MEXICO - Should read: "Area of around 700,000 acres outside of area treated this summer infested. Defoliating fir and Douglas-fir stands. (N. M. Coop. Rpt.)."

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

BLACK-VEINED WHITE BUTTERFLY (Aporia crataegi Linnaeus)

Economic Importance: Sporadically, this pierid has become a serious pest of orchards and hardwood forests in certain areas of Europe and Asia. In the spring of 1913, a serious outbreak totally defoliated plum, apple and pear trees in many localities of Bessarabia (Ukrainian SSR). It was also prevalent in other areas of Europe that same year. The pest caused severe losses to fruit growers in the Rhine Valley in 1922 and during the 1950's, and considerable damage was encountered in the Moravian region of Czechoslovakia in 1936-37. An outbreak during the years 1953-57 in Poland caused total loss of the fruit at some places. Outbreaks in the USSR are reported to last usually 3-4 years, and occur at intervals of 6-7 years.

The black-veined white butterfly was intercepted in the United States many times prior to 1926. Nursery inspections in several Eastern and Midwestern States during this period resulted in finding immature stages of this pest on imported nursery stock approximately 250 times. Records of the Federal Horticultural Board indicate that some 62 larval nests of this insect were intercepted on fruit and rose stocks arriving from France in 1921. Possibly the more rigid requirements imposed on foreign nursery stock for shipment to this country have been effective, in that the pest has not been intercepted at U. S. ports of entry since 1926. However, with the ever increasing amount of travel between this country and European and Asian countries by citizens of various nationalities, and the widespread distribution of the insect, it may be encountered more frequently in the future.



General Distribution of Aporia crataegi Linnaeus

(Pieridae, Lepidoptera)

Distribution: The species is recorded throughout most of Europe, and extends through Siberia into China, Korea and Japan. It also occurs in North Africa and the Near East (see map) but is not known to be present in Ireland or in southern and southeastern Asia.

Hosts: The species is a rather general feeder, having been recorded on many hosts. Fruit and wild rosaceous plants, as well as shade trees, are attacked. Apple, plum and pear are three of the most important fruit hosts, although others can be seriously injured.

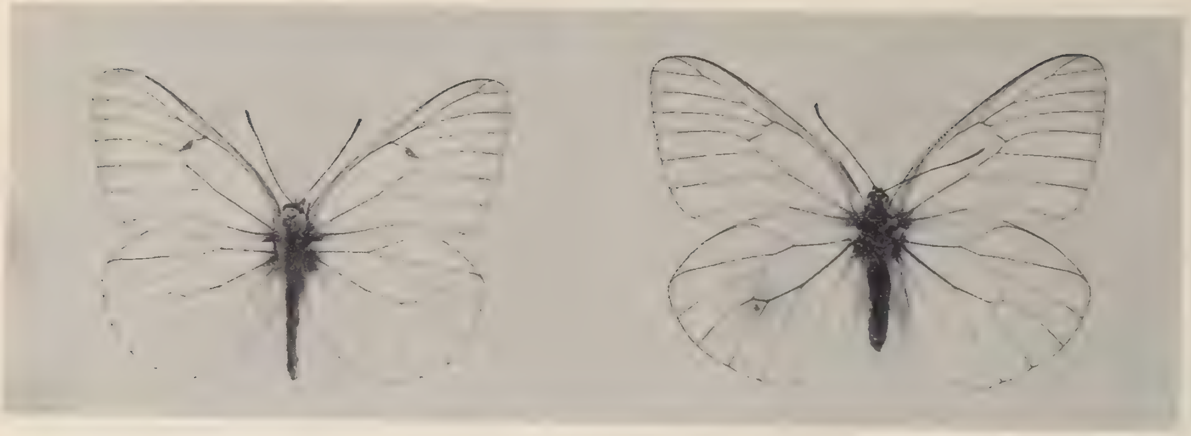
Life History and Habits: In Germany, the butterflies usually appear in May, and the eggs are laid towards the end of the month on the upper surfaces of leaves. Eggs hatch in 20-25 days, and larval development extends from June until the following April. The pupal stage lasts 15-21 days.

In England, where the pest is more or less extinct, adults appear towards the end of June and July. Eggs are laid in batches of 100-200, and hatch in 23 days. Young larvae at first cluster together, then spin a web over the surface of the leaf, living gregariously and all feeding on the same part of the leaf. In later stages, they may leave the web at intervals to feed. Hibernation occurs about mid-October. Larvae batch together in separate compartments in a nest which is tough and dense, and which is spun over the remaining parts of the leaves and around the branches, generally between a small fork. Larvae become active in late March, emerging from the web to feed on the expanding buds and new leaves, and then pass through their final or fourth molt. The total larval development takes about 280 days. Pupation occurs in late May or early June and lasts for about 21 days, according to the temperature. Adults emerge and live for less than 21 days.

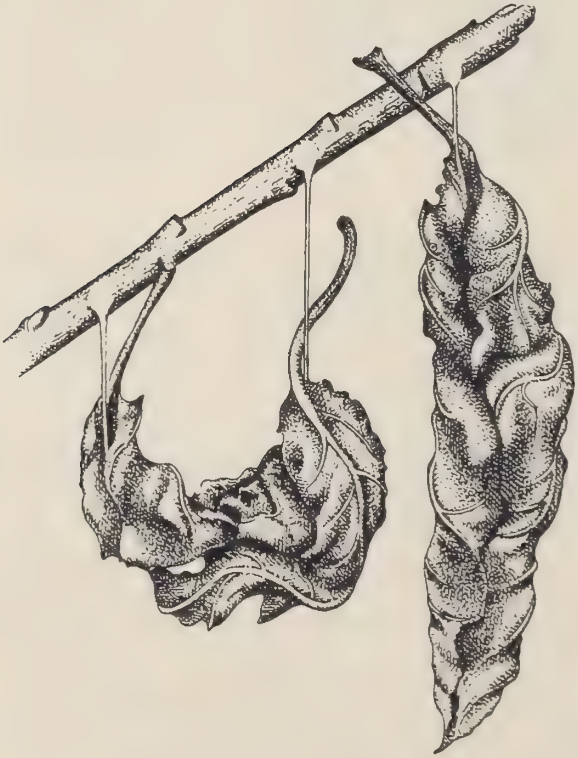
Description: ADULT - Wing expanse 69-76 mm. (2 3/4-3 in.). Wings roundish, white with conspicuous veins. Outer margin of forewing with more or less triangular patches of dusky scales; occasionally forming an irregular, dusky border. Marginal patches also sometimes present on hind wings, but not well defined. Patches may sometimes be absent. Fringes on wings very short; sometimes appear wanting. Sexes distinct; veins black in male and brownish in female, with exception of small veins which are black; scales on wings denser in male, thereby appearing whiter. This species is so variable within the limits here described that 22 subspecies, based upon minor differences, have been described. EGG - Honey-yellow, upright and ribbed from about middle to ornamented top. LARVA - Full-grown stage tawny brown, with paler hairs arising from white warts; stripes along sides and back black. Ventral surface grayish. Head, legs and spiracles blackish. Length 32-35 mm. (1 2/8-1 3/8 in.). CHRYSALIS - Creamy white, sometimes tinged with greenish and dotted with black. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 12(52):12-28-62.

(See illustrations on page 1282)

Some references: 1. Frohawk, F. W. 1934. The Complete Book of British Butterflies. pp. 291-295, London. 2. South, R. 1947. The Butterflies of the British Isles. pp. 32-33, London. 3. Stellwaag, F. 1924. Z. Agnew Ent. 10(2):273-312. 4. Balachowsky, A. and Mesnil, L. 1935. Les Insectes Nuisibles aux Plantes Cultivées. pp. 67-72, Paris (Illus.). 5. Ruszkowski, A. 1960. Prace Nauk. Inst. Ochr. Rośi. (Warsaw) 2(1):87-142. 6. Anonymous. 1922. J. Econ. Ent. 15(1):120.



Male (Left), Female (Right) of
Aporia crataegi Linnaeus



Larval Nests of Aporia crataegi Linnaeus

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